11-2: Polynomials and Geometry

Warm-up: A box is 21 mm long, 13 mm wide, and 9 mm high. Find the volume and surface area.

$3x$ ←

$3x + 3$ ←

$3x^2 + 3x + 3$ ←

Anything else:

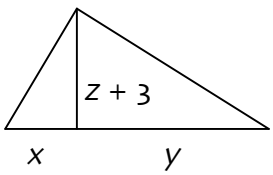
Up to now, we are used to seeing polynomials with only one variable, but…

$x^4 + 3x^2y^3 + y^4$ has more than one variable. How can we talk about the degree of the polynomial?

Determine the number of variables in each term:

Degree of a polynomial in several variables:

Example 1: Find a polynomial for A (the area of a triangle) in terms of x, y, and z.



Example 2: Expand and simplify.

a. $(2x-1)(3x^2-5x+4)$

b. $(y^2+2y-5)(4y^2-6y-1)$

Extended Distribution:

Example 3: A piece of cardboard is used to make an open box. It is 16.5 in by 23.5 in, with corners x in by x in cut from each corner. Let $V(x)$ be the volume of the box. Find a polynomial to represent the volume.

Homework:

"The best doctor in the world is the veterinarian. He can't ask his patients what is the matter-he's got to just know." – Will Rogers